

Tumor segmentation

The original MR images were resampled to $1 \times 1 \times 1 \text{ mm}^3$ voxels and the noise was reduced using Artificial Intelligence Kit software (AK, GE Healthcare). Regions of interest (ROI) were manually delineated around the border of the tumor on each slice from AP and PVP liver MR images by ITK-SNAP software. Radiomics features were extracted from each ROI. To assess intra-observer reliability, two radiologists who were blinded and had not participated in the liver MR imaging independently assessed the extracted ROIs. Both radiologists extracted the ROIs of tumors in one week, and the readout sessions were held one week later. Reliability was evaluated using the intra-class correlation coefficient and values greater than 0.8 were considered for subsequent investigation.